Amendments to the Claims

The following listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

I Claim:

1. (cancelled)

2. (cancelled)

3. (cancelled)

4. (cancelled)

5. (cancelled)

6. (cancelled)

7. (currently amended) ~~A system as in claim 5, further comprising:~~

A portable substance inhalation system comprising:

a mixing flask;

at least a first inhalation chamber in fluid communication with the mixing flask;

at least a second inhalation chamber in fluid communication with the mixing flask;

a cart with a plural of wheels attached;

a heater thermally coupled to the mixing flask;

at least one test fluid reservoir in fluid communication with the mixing flask;

at least one air source in fluid communication with the mixing flask;

a pump in fluid communication with the test fluid reservoir and the mixing flask;

wherein a test vapor can be selectively and individually provided to the first inhalation chamber and the second inhalation chamber; and

wherein the first inhalation chamber and the second inhalation chamber can be selectively removed from the substance inhalation system without test vapor leaking therefrom;

wherein air from the air source is mixed with a test fluid from the test fluid reservoir within the mixing flask;

wherein the pump is used to pump test fluid from the test fluid reservoir to the mixing flask; and

wherein the mixing flask, the first inhalation chamber, and the second inhalation chamber are placed on the cart.

8. (currently amended) A system as in claim ~~3~~ 7, further comprising:

at least a first flow meter/controller in fluid communication with the mixing flask and the first inhalation chamber;

at least a second flow meter/controller in fluid communication with the mixing flask and the second inhalation chamber;

wherein the first flow meter/controller selectively controls the flow of vapor to the first inhalation chamber; and

wherein the second flow meter/controller selectively controls the flow of test vapor to the second inhalation chamber.

9. (currently amended) A system as in claim ~~3~~ 7, further comprising:

~~at~~ a first inhalation chamber lid assembly enclosing the first inhalation chamber; and

a second inhalation chamber lid assembly enclosing the second inhalation chamber.

10. (original) A system as in claim 9, wherein each inhalation chamber lid assembly comprises:

a lid plate; and

at least one disconnected fitting installed in the lid plate;

wherein the disconnect fitting includes a one-way valve incorporated therein;

wherein a fluid line can be disconnected from the disconnect fitting without test vapor leaking from the disconnect fitting.

11. (original) A system as in claim 10, wherein each inhalation chamber lid assembly further comprises:

at least one latch attached to the lid plate;

wherein the latch securely fastens the inhalation chamber lid assembly to the inhalation chamber.

12. (original) A system as in claim 11, wherein each inhalation chamber lid assembly further comprises:

a gasket placed between the inhalation chamber lid assembly and the inhalation chamber;

wherein the gasket seals the inhalation chamber.

13. (original) A system as in claim 12, wherein each inhalation chamber lid assembly further comprises:

at least on rubber plug removably installed with the lid plate;

wherein the rubber plug is removable to provide access port to the inhalation chamber.

14. (currently amended) A system as in claim 13, wherein each inhalation chamber lid assembly further comprises:

at least on thumb screw threadably engaged with the lid plate;

wherein the thumb screw can be loosened to vent the inhalation chamber.

15. (original) A system as in claim 14, wherein each inhalation chamber lid assembly further comprises:

at least one divider extending from the lid plate into the inhalation chamber;

wherein the divider divides the inhalation chamber into at least a first portion and at least a second portion; and

wherein at least one test subject can be placed within the first portion of the inhalation chamber and at least one test subject can be placed within the second portion of the inhalation chamber.

16. (original) A system as in claim 15, wherein each inhalation chamber lid assembly further comprises:

at least a first water cup attached to a bottom surface on the lid plate;

at least a second water cup attached to the bottom surface of the lid plate;

at least one sipper tube extending from the first water cup;

at least one sipper tube extending from the second water cup; and

wherein each water cup is located on an opposite side of the divider.

17. (cancelled)

18. (cancelled)

19. (cancelled)

20. (cancelled)

21. (currently amended) An inhalation chamber lid assembly ~~as in claim 20,~~ further for enclosing an inhalation chamber, the inhalation chamber lid assembly comprising:

a lid plate;

at least one disconnect fitting installed in the lid plate;

at least one latch attached to the lid plate;

a gasket placed between the lid plate and the inhalation chamber;

at least one rubber plug removably installed within the lid plate;

at least one thumb screw threadably engaged with the lid plate;

wherein the disconnect fitting includes a one-way valve incorporated therein; ~~and~~

wherein a fluid line can be disconnected from the disconnect fitting without a test vapor leaking;

wherein the latch securely fastens the inhalation chamber lid assembly to the inhalation chamber;

wherein the gasket seals the inhalation chamber;

wherein the rubber plug is removable to provide access to the inhalation chamber; and

wherein the thumb screw can be loosened to vent the inhalation chamber.

22. (original) An inhalation chamber lid assembly as in claim 21, further comprising:

at least one divider extending from the lid plate into the inhalation chamber;

wherein the divider divides the inhalation chamber into at least a first portion and at least a second portion; and

wherein at least one test subject can be placed within the first portion of the inhalation chamber and at least on test subject can be placed within the second portion of the inhalation chamber.

23. (original) A inhalation chamber lid assembly as in claim 22, further comprising:

at least a first water cup attached to a bottom surface of the lid plate;

at least a second water cup attached the bottom surface of the lid plate;

at least on sipper tube extending from the first water cup;

at least one sipper tube extending from the second water cup; and

wherein each water cup is located on an opposite side of the divider.

24. (cancelled)

25. (cancelled)

26. (currently amended) A substance inhalation system ~~as in claim 25~~, ~~further~~ comprising:

a mixing flask;

a test fluid reservoir in fluid communication with the mixing flask;

at least a first inhalation chamber in fluid communication with the mixing flask;

at least a second inhalation chamber in fluid communication with the mixing flask;

at least a first flow meter/controller in fluid communication with the mixing flask and the first inhalation chamber;

at least a second flow meter/controller in fluid communication with the mixing flask and the second inhalation chamber;

a heater thermally coupled to the mixing flask;

a temperature sensor thermally coupled to the mixing flask; and

a microprocessor electronically connected to the first flow meter/controller and the second flow meter/controller, the microprocessor including logic for

selectively and individually controlling the flow of test vapor to the first inhalation chamber and the second inhalation chamber,

determining whether a test parameter is within a predetermined range; and

at least partially based thereon, altering the flow of test vapors to the first inhalation chamber or the second inhalation chamber, and

determining whether a temperature within the mixing flask is within a predetermined operating range, and at least partially based thereon, adjusting the heater.

27. (original) A substance inhalation system as in claim 26, further comprising:

a fluid level sensor disposed with a test fluid reservoir;

a pump in fluid communication with the tes6t fluid reservoir and the mixing flask; and

wherein the microprocessor further comprises logic for:

determining a level of test fluid within the test fluid reservoir; and

at least partially based thereon, selectively de-energizing a pump.